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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,918	07/29/2003	Brian D. Gragg	200210214-1	8126

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EXAMINER	
CHERY, MARDOCHEE	
ART UNIT	**PAPER NUMBER**
2188	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/628,918	GRAGG, BRIAN D.	
	Examiner	Art Unit	
	Mardochee Chery	2188	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 December 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This Office Action is in response to applicant's communication filed on December 18, 2006, in response to PTO Office Action mailed on September 21, 2006. The applicant's remarks and amendments to the claims and/or the specification were considered with the results that follow.

2. Claims 1-27 remain pending.

Response to Arguments

3. Applicant's arguments filed December 18, 2006, have been fully considered but are not persuasive.

a. Applicants argue on pages 7-11 of the remarks that claim 11 is directed to statutory subject matter and the 101 rejection of claim 11 and dependent claims 12-19 should be withdrawn.

Examiner strongly disagrees in view of the following: The claimed invention is directed to non-statutory subject matter. Claims 11-19 recites the limitation "computer-readable medium". However, it is to be noted that on page 2 of the specification, a computer-readable medium is defined to include transmission media or signals such as electrical, electromagnetic, or digital signals, conveyed via a communication medium such as network and/or a

wireless link, cables, wires, electromagnetic radiation, radio-wave, infrared, carrier wave/pulse which are non-statutory subject matter. Computer readable medium includes carrier wave/pulse, signals, electromagnetic radiation, radio-wave, and infrared communication. Hence claims 11-19 are rejected as being directed to non-statutory subject matter.

Claims that recite nothing but the physical characteristics of a form of energy, such as a frequency, voltage, or the strength of a magnetic field, define energy or magnetism, per se, and as such are nonstatutory natural phenomena. O'Reilly, 56 U.S. (15 How.) at 112-14. Moreover, it does not appear that a claim reciting a signal encoded with functional descriptive material falls within any of the categories of patentable subject matter set forth in § 101.

First, a claimed signal is clearly not a "process" under § 101 because it is not a series of steps. The other three § 101 classes of machine, compositions of matter and manufactures "relate to structural entities and can be grouped as 'product' claims in order to contrast them with process claims." 1 D. Chisum, Patents § 1.02 (1994). The three product classes have traditionally required physical structure or material.

The term machine includes every mechanical device or combination of mechanical device or combination of mechanical powers and devices to perform

some function and produce a certain effect or result." Coming v. Burden, 56 U.S. (15 How.) 252, 267 (1854). A modern definition of machine would no doubt include electronic devices which perform functions. Indeed, devices such as flip-flops and computers are referred to in computer science as sequential machines. A claimed signal has no physical structure, does not itself perform any useful, concrete and tangible result and, thus, does not fit within the definition of a machine.

A "composition of matter" "covers all compositions of two or more substances and includes all composite articles, whether they be results of chemical union, or of mechanical mixture, or whether they be gases, fluids, powders or solids." Shell Development Co. v. Watson, 149 F. Supp. 279, 280, 113 USPQ 265, 266 (D.D.C. 1957), affd, 252 F.2d 861, 1 16 USPQ 428 (D.C. Cir.1958). A claimed signal is not matter, but a form of energy, and therefore is not a composition of matter.

The Supreme Court has read the term "manufacture" in accordance with its dictionary definition to mean "the production of articles for use from raw or prepared materials by giving to these materials new forms, qualities, properties, or combinations, whether by hand-labor or by machinery." Diamond v. Chakrabady, 447 U.S. 303, 308, 206 USPQ 193, 196-97 (1980) (quoting American Fruit Growers, Inc. v. Brogdex Co., 283 U.S. 1, 11, 8 USPQ 131,133

1931), which, in turn, quotes the Century Dictionary). Other courts have applied similar definitions. See American Disappearing Bed Co. v. Arnaelsteen, 182 F. 324, 325 (9th Cir. 1910), cert. denied, 220 U.S. 622 (1911). These definitions require physical substance, which a claimed signal does not have. Congress can be presumed to be aware of an administrative or judicial interpretation of a statute and to adopt that interpretation when it re-enacts a statute without change. Lorillard v. Pons, 434 U.S. 575, 580 (1978). Thus, Congress must be presumed to have been aware of the interpretation of manufacture in American Fruit Growers when it passed the 1952 Patent Act.

A manufacture is also defined as the residual class of product. 1 Chisum, § 1.0213] (citing W. Robinson, The Law of Patents for Useful Inventions 270 (1890)).

A product is a tangible physical article or object, some form of matter, which a signal is not. That the other two product classes, machine and composition of matter, require physical matter is evidence that a manufacture was also intended to require physical matter. A signal, a form of energy, does not fall within either of the two definitions of manufacture. Thus, a signal does not fall within one of the four statutory classes of § 101.

The claimed invention is directed to non-statutory subject matter. Claims 11-19 are rejected under 35 USC 101 as being non-statutory. The claimed

invention is directed to non-statutory subject matter. Claims 11-19 recite the limitation "an article of manufacture embodied in a computer-readable medium". However, it is to be noted that, an article of manufacture embodied in a computer-readable medium, to one of ordinary skill in the art, includes transmission media or signals such as electrical, electromagnetic, or digital signals, conveyed via a communication medium such as network and/or a wireless link, which is non-statutory subject matter. An article of manufacture embodied in a computer-readable medium is rejected as being non-statutory and does not fall within any of the statutory category of invention, namely, a machine, a process, an article of manufacture, and composition of matter. See http://www.uspto.gov/web/offices/com/sol/og/2005/week47/patgupa.htm

b. Applicants argue on page 11, paragraph 2 to page 12 of the remarks that McIntyre and Quinn fail to teach or suggest "a storage access manager configured to coordinate access to the storage device from a plurality of client devices that communicate with a storing device using at least one uncoordinating communication protocol", recited in claim 1.

Examiner strongly disagrees. McIntyre unequivocally discloses "a number of computing devices or client devices such as stand-alone computers, palm-computers, laptop computers, having access to data storage, printers, and a printer control program, and capable of communicating, sending, or receiving data over a network using several communication protocols [pars. 0022-0023].

Quinn further discloses "clients may use different message types/formats and communication protocols to communicate requests between clients and servers; par. 0047".

Thus, it is manifest that McIntyre expressly discloses "storage access manager configured to coordinate access to a storage device from a plurality of client devices; pars. [0022-0023]", and that Quinn discloses "client devices communicating with the storage device using at least one uncoordinating communication protocol", verbatim in par. [0047]. As a result, the claimed invention is not patentably distinct over the cited art of record.

c. Applicants argue on pages 13-15 that McIntyre and Quinn fail to teach or suggest "second processor executable instructions for causing a processor to determine a contention status between the current access state and a received access request for accessing the storage device based on a contention logic, the contention logic defining rights for simultaneous access to the storage device from the at least first communication and the second communication protocol where the at least first communication does not provide notice of an access to the second communication protocol, and third processor executable instructions for causing a processor to determine whether the received access request is permissible based on the contention status".

Examiner totally disagrees. Quinn clearly discloses "each agent is configured to perform a specific set of operations; one agent is configured to

perform operations related to adding a volume to a storage array which may include gaining exclusive access to (or locking) the storage array, getting the latest data configuration of the storage array, adding a volume to the storage array, verifying that the volume was properly added, releasing the lock on the storage array; the AddVolume agent determines the various operations corresponding to the requested command; AddVolume agent determines that the command to add a volume comprises gaining exclusive access to (or locking) the storage array ...and releasing the lock on the storage array; pars. 0052, 0063, 0069". As shown above, gaining exclusive access or locking the storage array intrinsically results from a simultaneous access conflict between a requesting (or pending) agent and the agent currently accessing the storage array, and exclusive access or a lock necessitates conflict access between the requesting agent and agent currently accessing the storage array thereby determining the access status. Needless to say that one of ordinary skill in the art would have also recognized and appreciated the use of contention logic in a system where agents are enable to gain exclusive access or place a lock on a storage array.

In view of the foregoing, it has been clearly shown that the claimed invention is not patentably distinct over the cited art of record. Furthermore, as shown above, McIntyre and Quinn teach all the features of independent claims 1, 11, and 20 as broadly claimed. Therefore, the rejection of claims 1-27 is strictly maintained.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. the claimed invention is directed to non-statutory subject matter. Claims 11-19 are rejected under 35 USC 101 as being non-statutory.

The claimed invention is directed to non-statutory subject matter. Claims 11-19 recites the limitation "computer-readable medium". However, it is to be noted that on page 2 of the specification, a computer-readable medium is defined to include transmission media or signals such as electrical, electromagnetic, or digital signals, conveyed via a communication medium such as network and/or a wireless link, cables, wires, electromagnetic radiation, radio-wave, infrared, carrier wave/pulse which are non-statutory subject matter. Computer readable medium includes carrier wave/pulse, signals, electromagnetic radiation, radio-wave, and infrared communication. Hence claims 11-19 are rejected as being directed to non-statutory subject matter.

Claims that recite nothing but the physical characteristics of a form of energy, such as a frequency, voltage, or the strength of a magnetic field, define energy or magnetism, per se, and as such are nonstatutory natural phenomena. O'Reilly, 56 U.S. (15 How.) at 112-14. Moreover, it does not appear that a claim reciting a signal encoded with functional descriptive material falls within any of the categories of patentable subject matter set forth in § 101.

First, a claimed signal is clearly not a "process" under § 101 because it is not a series of steps. The other three § 101 classes of machine, compositions of matter and manufactures "relate to structural entities and can be grouped as 'product' claims in order to contrast them with process claims." 1 D. Chisum, Patents § 1.02 (1994). The three product classes have traditionally required physical structure or material.

The term machine includes every mechanical device or combination of mechanical device or combination of mechanical powers and devices to perform some function and produce a certain effect or result." Coming v. Burden, 56 U.S. (15 How.) 252, 267 (1854). A modern definition of machine would no doubt include electronic devices which perform functions. Indeed, devices such as flip-flops and computers are referred to in computer science as sequential machines. A claimed signal has no physical structure, does not itself perform any useful, concrete and tangible result and, thus, does not fit within the definition of a machine.

A "composition of matter" "covers all compositions of two or more substances and includes all composite articles, whether they be results of chemical union, or of mechanical mixture, or whether they be gases, fluids, powders or solids." Shell Development Co. v. Watson, 149 F. Supp. 279, 280,

113 USPQ 265, 266 (D.D.C. 1957), affd, 252 F.2d 861, 1 16 USPQ 428 (D.C. Cir.1958). A claimed signal is not matter, but a form of energy, and therefore is not a composition of matter.

The Supreme Court has read the term "manufacture" in accordance with its dictionary definition to mean "the production of articles for use from raw or prepared materials by giving to these materials new forms, qualities, properties, or combinations, whether by hand-labor or by machinery." Diamond v. Chakrabady, 447 U.S. 303, 308, 206 USPQ 193, 196-97 (1980) (quoting American Fruit Growers, Inc. v. Brogdex Co., 283 U.S. 1, 11, 8 USPQ 131,133 1931), which, in turn, quotes the Century Dictionary). Other courts have applied similar definitions. See American Disappearing Bed Co. v. Arnaelsteen, 182 F. 324, 325 (9th Cir. 1910), cert. denied, 220 U.S. 622 (1911). These definitions require physical substance, which a claimed signal does not have. Congress can be presumed to be aware of an administrative or judicial interpretation of a statute and to adopt that interpretation when it re-enacts a statute without change. Lorillard v. Pons, 434 U.S. 575, 580 (1978). Thus, Congress must be presumed to have been aware of the interpretation of manufacture in American Fruit Growers when it passed the 1952 Patent Act.

A manufacture is also defined as the residual class of product. 1 Chisum, § 1.0213] (citing W. Robinson, The Law of Patents for Useful Inventions 270

(1890)).

A product is a tangible physical article or object, some form of matter, which a signal is not. That the other two product classes, machine and composition of matter, require physical matter is evidence that a manufacture was also intended to require physical matter. A signal, a form of energy, does not fall within either of the two definitions of manufacture. Thus, a signal does not fall within one of the four statutory classes of § 101.

The claimed invention is directed to non-statutory subject matter. Claims 11-19 are rejected under 35 USC 101 as being non-statutory. The claimed invention is directed to non-statutory subject matter. Claims 11-19 recite the limitation "an article of manufacture embodied in a computer-readable medium". However, it is to be noted that, an article of manufacture embodied in a computer-readable medium, to one of ordinary skill in the art, includes transmission media or signals such as electrical, electromagnetic, or digital signals, conveyed via a communication medium such as network and/or a wireless link, which is non-statutory subject matter. An article of manufacture embodied in a computer-readable medium is rejected as being non-statutory and does not fall within any of the statutory category of invention, namely, a machine, a process, an article of manufacture, and composition of matter. See

http://www.uspto.gov/web/offices/com/sol/og/2005/week47/patgupa.htm

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over McIntyre (2003/0063305) in view of Quinn (2004/0006616).

As per claim 1, McIntyre discloses an image forming device comprising: a storage device for storing data [Fig. 1; ¶ 22]; and a storage access manager configured to coordinate access to the storage device from a plurality of client devices [¶ 23].

However, McIntyre does not specifically client devices that communicate with the storage device using at least one uncoordinating communication protocol as required.

Quinn discloses client devices that communicate with the storage device using at least one uncoordinating communication protocol [*clients may use different message types/formats and communication protocols to communicate requests to command servers 208*; par. 47; See also claim text 3] to provide improved techniques for managing storage environments [par. 7].

Since the technology for implementing a storage system with client devices that communicate with the storage device using at least one uncoordinating communication

protocol was well know as evidenced by Quinn, an artisan would have been motivated to implement this feature in the system of McIntyre to provide improved techniques for managing storage environments. Thus, it would have been obvious to one of ordinary skill in the art at the time of invention by Applicants to modify the system of McIntyre to include client devices that communicate with the storage device using at least one uncoordinating communication protocol since this would have provided improved techniques in managing storage environment (par. 7) as taught by Quinn.

As per claims 2 and 3, McIntyre discloses the sector-level communication protocol includes a universal serial bus protocol and the file-level communication protocol includes a common internet file system protocol [pa¶ 23].

As per claim 4, McIntyre discloses the storage access manager further includes a contention matrix configured to determine contention states for accessing the storage for accessing the storage device [¶ 33].

As per claim 4, Quinn also discloses the storage access manager further includes a contention matrix configured to determine contention states for accessing the storage for accessing the storage device [¶ 52].

As per claim 5, McIntyre discloses a universal serial bus communication port for

communicating to the storage device and, a network communication port for communicating to the storage device [¶ 23].

As per claim 6, McIntyre discloses a plurality of universal serial bus communication ports configured to provide access to the storage device [¶ 23].

As per claim 7, McIntyre discloses the storage device includes logic to notify a client device whether an access request for the storage device is permissible [¶¶ 22 and 33].

As per claim 7, Quinn also discloses the storage device includes logic to notify a client device whether an access request for the storage device is permissible [¶ 52].

As per claim 8, McIntyre discloses the storage access manager is embodied as logic [¶ 33].

As per claim 9, McIntyre discloses the storage device is one or more memory cards [¶ 33].

As per claim 10, McIntyre discloses the storage access manager includes storage access manager means to coordinate the access to the storage device [¶ 34].

As per claim 11, McIntyre further discloses an article of manufacture embodied in a computer-readable medium for use in an image forming device having a storage device accessible by at least a first communication protocol and a second communication protocol, the article of manufacture comprising first processor executable instructions for causing a processor to maintain a current access state for the storage device [¶¶ 22 and 23]; and third processor executable instructions for causing a processor to determine whether the received access request is permissible based on the contention status [¶ 33].

However, McIntyre does not specifically teach second processor executable instructions for causing a processor to determine a contention status between the current access state and a received access request for accessing the storage device based on a contention logic, the contention logic defining rights for simultaneous access to the storage device from the at least first communication protocol and the second communication protocol as required.

Quinn, in addition to disclosing an article of manufacture embodied in a computer-readable medium for use in an image forming device having a storage device accessible by at least a first communication protocol and a second communication protocol [par. 9]; and third processor executable instructions for causing a processor to determine whether the received access request is permissible based on the contention

status [¶ 69]; also discloses a second processor executable instructions for causing a processor to determine a contention status between the current access state and a received access request for accessing the storage device based on a contention logic, the contention logic defining rights for simultaneous access to the storage device from the at least first communication protocol and the second communication protocol [par. 52, 63] to allow exclusive access or locking to the storage device (par. 52).

Since the technology for implementing a storage device with instructions to determine a contention status between the current access state and a received access request for accessing the storage device based on a contention logic was well know as evidenced by Quinn, an artisan would have been motivated to implement this feature in the system of McIntyre in order to allow exclusive access or locking to the storage device. Thus, it would have been obvious to one of ordinary skill in the art at the time of invention by Applicant to modify the system of McIntyre to include instructions to determine a contention status between the current access state and a received access request for accessing the storage device based on a contention logic because this would have allowed exclusive access or locking to the storage device (par. 52) as taught by Quinn.

As per claim 12, McIntyre discloses the contention logic is configured to coordinate simultaneous access to the storage device by one or more clients using the first communication protocol and one or more clients using the second communication

protocol [¶¶ 22-23].

As per claim 13, the rationale in the rejection of claims 4 and 7 is herein incorporated.

As per claim 14, McIntyre discloses the contention logic is configured based on the first communication protocol being a sector-level protocol and the second communication protocol being a file-level protocol [¶¶ 5, 22 and 26].

As per claim 15, McIntyre discloses at least a first communication protocol and the second communication protocol include at least one uncoordinating communication protocol [¶ 23].

As per claim 15, Quinn also discloses at least a first communication protocol and the second communication protocol include at least one uncoordinating communication protocol [par. 47; See also claim text 3].

As per claim 16, McIntyre discloses fourth processor executable instructions for causing a processor to notify a first client when access to the storage device occurs by a second client [¶¶ 22-23].

As per claim 16, Quinn also discloses fourth processor executable instructions for causing a processor to notify a first client when access to the storage device occurs by a second client [¶ 69].

As per claim 17, McIntyre discloses the at least first and the second communication protocols include the same protocol [¶¶ 23].

As per claim 18, McIntyre discloses fifth processor executable instructions for causing a processor to assign an identifier to each client requesting access to the storage device [¶ 27].

As per claim 18, Quinn also discloses fifth processor executable instructions for causing a processor to assign an identifier to each client requesting access to the storage device [¶ 69].

As per claim 19, McIntyre discloses the second processor executable instructions include storage access manager means for controlling access to the storage device [¶¶ 22 and 33].

As per claim 20, the rationale in the rejection of claims 1, 4, and 11 is herein incorporated.

As per claim 21, the rationale in the rejection of claim 4 is herein incorporated.

As per claim 22, the rationale in the rejection of claim 3 is herein incorporated.

As per claims 23 and 25, the rationale in the rejection of claim 7 is herein incorporated.

As per claim 24, the rationale in the rejection of claim 18 is herein incorporated.

As per claim 26, the rationale in the rejection of claim 15 is herein incorporated.

As per claim 27, the rationale in the rejection of claim 17 is herein incorporated.

8. Claims 4, 13 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over McIntyre (2003/0063305) in view of Quinn (2004/0006616) as applied to claims 1, 11 and 20 above, and further in view of Erlington (2003/0233544).

As per claim 4, McIntyre and Quinn disclose the claimed invention as discussed above in the previous paragraphs. However, McIntyre and Quinn do not specifically teach the storage access manager further includes a contention matrix configured to

determine contention states for accessing the storage for accessing the storage device as required by the claim.

Erlingson discloses the storage access manager further includes a contention matrix configured to determine contention states for accessing the storage for accessing the storage device [Figs. 4, 5 and 7; par. 26-27, 76] to allow multiple concurrent users devices to simultaneously access the computer systems (par. 3).

Since the technology for implementing a storage system with a contention matrix to determine contention states for accessing a storage device was well known as evidenced by Erlington, an artisan would have been motivated to implement this feature in the system of McIntyre and Quinn in order to allow multiple concurrent users devices to simultaneously access the computer systems. Thus, it would have been obvious to one of ordinary skill in the art at the time of invention by Applicant to modify the system of McIntyre and Quinn to include a contention matrix to determine contention states for accessing a storage device because this would have allowed multiple concurrent users devices to simultaneously access the computer systems (par. 3) as taught by Erlington.

As per claim 13, the rationale in the rejection of claims 4 and 7 is herein incorporated.

As per claim 21, the rationale in the rejection of claim 4 is herein incorporated.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

When responding to the office action, Applicant is advised to clearly point out the patentable novelty that he or she thinks the claims present in view of the state of the art disclosed by references cited or the objections made. He or she must also show how the amendments avoid such references or objections. See 37 C.F.R. 1.111(c).

10. When responding to the Office action, Applicant is advised to clearly point out where support, with reference to page, line numbers, and figures, is found for any amendment made to the claims.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mardochee Chery whose telephone number is (571) 272-4246. The examiner can normally be reached on 8:30A-5:00P.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hyung Sough can be reached on (571) 272-6799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

April 4, 2007

HYUNG SOUGH
SUPERVISORY PATENT EXAMINER
4-10-07

Mardochee Chery
Examiner
AU: 2188